

CLAIMS

5 1) A method of producing sealed packages (2) containing pourable food products from a tube (3) of heat seal sheet packing material fed along a vertical path (A) and filled continuously with said food product; said method comprising the steps of:

10 - pressure gripping equally spaced cross sections of said tube (3) by means of at least two pairs of jaws (8, 9) acting cyclically and successively on the tube (3);

- cutting said tube (3), at each of said cross sections, along a respective parting line (L); and then

15 - heat sealing the packing material of said tube (3) on opposite sides of said parting line (L).

20 2) A method of producing sealed packages (2) containing pourable food products from a tube (3) of heat seal sheet packing material fed along a vertical path (A) and filled continuously with said food product; said method comprising the steps of:

- pressure gripping equally spaced cross sections of said tube (3) by means of at least two pairs of jaws (8, 9) acting cyclically and successively on the tube (3);

25 - cutting said tube (3), at each of said cross sections, along a respective parting line (L); and

- heat sealing the packing material of said tube (3) on opposite sides of said parting line (L);

characterized in that said heat seal step is performed by inducing, on opposite sides of said parting line (L) of said tube (3) of packing material, electric loss currents traveling along substantially symmetrical paths with respect to the parting line (L).

3) A method as claimed in Claim 1 or 2, for aseptic sealed packages (2) made of heat seal packing material comprising at least one layer of electrically conductive barrier material; characterized in that said heat seal step is performed by inducing electric loss current in said packing material of said tube (3).

4) A packing unit (1) for producing sealed packages (2) containing pourable food products from a tube (3) of heat seal sheet packing material fed along a vertical path (A) and filled continuously with said food product, said unit (1) comprising a fixed structure (4); at least two pairs of jaws (8, 9) movable with respect to said structure (4) and acting cyclically and successively on said tube (3) to pressure grip equally spaced cross sections of the tube; and sealing means (51) and cutting means (52) carried by each said pair of jaws (8, 9) to respectively perform, on each said cross section of said tube (3) of packing material gripped between the jaws (8, 9), a heat seal operation and a cutting operation along a respective parting line (L);

characterized by comprising control means (70) for controlling said jaws (8, 9), said sealing means (51) and said cutting means (52) to perform, on said tube (3) of

packing material, first said cutting operation along said parting line (L) and then said heat seal operation on opposite sides of the parting line (L).

5) A packing unit (1) for producing sealed packages (2) containing pourable food products from a tube (3) of heat seal sheet packing material fed along a vertical path (A) and filled continuously with said food product, said unit (1) comprising a fixed structure (4); at least two pairs of jaws (8, 9) movable with respect to said structure (4) and acting cyclically and successively on said tube (3) to pressure grip equally spaced cross sections of the tube; and sealing means (51) and cutting means (52) carried by each said pair of jaws (8, 9) to respectively perform, on each said cross section of said tube (3) of packing material gripped between the jaws (8, 9), a heat seal operation and a cutting operation along a respective parting line (L); characterized in that said sealing means (51) comprise heating means (53, 75) in turn comprising, for each pair of said jaws (8, 9), at least two elongated active surfaces (55, 76a, 76b) interacting with each said cross section of said tube (3) gripped between the jaws (8, 9), and located on opposite sides of the respective said parting line (L).

6) A unit as claimed in Claim 4 or 5, for aseptic sealed packages (2) made of packing material comprising at least one layer of electrically conductive barrier material; characterized in that said sealing means (51) comprise electric-current-induction heating means (53,

75) carried by one (8) of said jaws (8, 9) in each pair; contrasting means (58) carried by the other (9) of said jaws (8, 9) in said pair and cooperating with said heating means (53, 75); and electric current generating means (57) for supplying said heating means (53, 75).

7) A unit as claimed in Claim 6, characterized in that said layer of electrically conductive material of said packing material is made of aluminium.

8) A unit as claimed in Claim 6 or 7, characterized in that said heating means (53, 75) comprise, for each pair of said jaws (8, 9), at least two elongated active surfaces (55, 76a, 76b) interacting with each said cross section of said tube (3) gripped between the jaws (8, 9), and located on opposite sides of the respective said parting line (L).

9) A unit as claimed in Claim 8, characterized in that said heating means (75) comprise, for each pair of said jaws (8, 9), four elongated said active surfaces (76a, 76b) interacting with each said cross section of said tube (3) gripped between the jaws (8, 9), and located in pairs on opposite sides of the respective said parting line (L); said active surfaces (76a, 76b) inducing, on opposite sides of said parting line (L) of each said cross section of said tube (3) of packing material, electric loss currents traveling along substantially symmetrical paths with respect to the parting line (L).

10) A unit as claimed in Claim 8 or 9, characterized in that said heating means (53, 75) comprise, for each said active surface (55, 76a, 76b), a projection (56, 81) projecting frontwards from the active surface (55, 76a, 76b) and extending substantially the whole length of the active surface.

11) A unit as claimed in any one of Claims 4 to 10, characterized in that said cutting means (52) comprise at least one cutting element (59) carried by one (9) of said jaws (8, 9) in each pair and movable, with respect to the jaws (8, 9), crosswise to said tube (3) of packing material; and first actuating means (61) for moving said cutting element (59) between an idle position, and a cutting position in which the cutting element projects frontwards from the respective said jaw (9).

12) A unit as claimed in any one of Claims 4 to 11, characterized by comprising first and second hook means (13, 14) carried by respective said jaws (9, 8) in each pair; and second actuating means (15) for pressure engaging said first and second hook means (13, 14) in an engaged position corresponding to a closed position of the jaws (8, 9) on said tube (3) of packing material.

13) A unit as claimed in Claim 12, characterized in that said control means comprise a central control unit (70) connected to said first and second actuating means (61, 15) and to said electric current generator (57).

14) A sealed package (2) containing a pourable food product, produced according to the method defined in

